

THE MALE BRACHYCISTIDINE WASPS OF
THE NEVADA TEST SITE
(HYMENOPTERA: TIPHIIDAE)¹

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Brachycistidine wasps are relatively common inhabitants of arid regions in the western United States and may be very abundant locally. There is a strong sexual dimorphism throughout the subfamily. The males are fairly strong fliers and are attracted to various light sources. Because of this, they are well represented in collections of western material. The females, on the other hand, are wingless, strongly fossorial, and probably spend a large proportion of their life cycle underground. They are poorly known. As might be expected, the classification is based principally on the males (Wasbauer, 1966, 1968).

The present study is based on 111 specimens of males from the Nevada Test Site which were made available to me through the kindness of Dr. Donald Allred, Brigham Young University, Provo, Utah.

The collections made thus far have not been sufficiently intensive to provide information on ecological relationships or seasonal occurrence. The data given here are thus in the form of a list of the brachycistidine taxa found within the boundaries of the Test Site study areas. A statement of general distribution and specific locality records are given for each species. A code designation provided for each specimen collected during the course of the sampling at the Test Site is given in parentheses as part of the specific locality record, and where applicable, a plant association is indicated. Additional information on code designations and biotic communities of the Nevada Test Site may be found in Allred, Beck, and Jorgensen (1963, 1963a).

Genus *Acanthetropis* Wasbauer

Acanthetropis aequalis (Fox).— This species is widespread in the Great Basin. It occurs at least as far north as Idaho and extends eastward into Kansas and Nebraska. Five specimens were seen from the Nevada Test Site. They were all taken from a *Grayia-Lycium* community approx. 35 miles NW Mercury, 22 July 1965, incandescent light and black light [18M(T) and 18M(TB)].

Acanthetropis noctivaga (Bradley).— This species is common in the Colorado and Mojave deserts of California, extending through southern Nevada to Arizona. It occurs also in the Sonoran Desert of mainland Mexico and the Vizcaino Desert of northern Baja California. It has been taken at four areas in the Nevada Test Site: one

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specimen, 13 miles NW Mercury, 21 July 1965, *Larrea-Franseria* community, black light [401(M)TB]; two specimens, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M(TB)]; one specimen, vicinity Mid Valley, approx. 20 miles NW Mercury, 8 August 1965, *Coleogyne* community, black light [17M(TB)]; four specimens, approx. 26 miles NNW Mercury, 27 July 1965, *Coleogyne* community, incandescent light [1M(T)].

Genus *Brachycistis* Fox

Brachycistis glabrella (Cresson).— A common, widespread, and quite variable species, *B. glabrella* has been taken in every state west of the 100th meridian and south of the 45th parallel. In Mexico, it occurs in the Chihuahuan Desert and extends south along the great Central Plateau. It has been taken at two areas in the Nevada Test Site: one specimen, vicinity Rainier Mesa, approx. 36 miles NNW Mercury, 9 August 1965, Piñon-Juniper association, black light [12M(TB)]; two specimens, approx. 20 miles NW Mercury, 8 August 1965, *Coleogyne* community, black light [17M(TB)].

Brachycistis inaequalis Fox.— The distribution of this species is limited to southern and western Arizona, southern Nevada, and the San Joaquin Valley and Colorado and Mojave deserts of California. It has been taken at three areas in the Nevada Test Site: one specimen, vicinity north portion Yucca Flat, approx. 34 miles N Mercury, 28 June 1963, Allred live-catch rodent trap [10SH11(L)]; four specimens, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M(TB)]; eight specimens, approx. 26 miles NW Mercury, 16 July 1965, *Coleogyne* community, incandescent light [1M(T)].

Brachycistis ioachinensis Bradley.— This is a somewhat variable species, widespread in the western United States. It has been taken from the Cascades and northern Rocky Mountains, through the Great Basin, the southern deserts as far east as the panhandle of Texas, and well into the Sonoran and Chihuahuan deserts of Mexico. It has been taken at two areas in the Nevada Test Site: one specimen, approx. 26 miles NNW Mercury, 27 July 1965, *Coleogyne* community, incandescent light [1M(T)]; four specimens, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M(TB)].

Brachycistis linsleyi Wasbauer.— This is a species of the Sonoran and Chihuahuan deserts of Mexico. It occurs in the Mojave and Colorado deserts of California, through the southern portions of Nevada, Arizona, and New Mexico, and in western Texas. It has been taken at four areas in the Nevada Test Site: two specimens, vicinity Cane Springs, 18 miles NW Mercury, 21 July 1965, *Larrea-Franseria* community, black light [401M(TB)]; one specimen, Mercury, 29 August 1965, *Larrea-Franseria* community, incandescent light [M(T)]; one specimen, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M(TB)]; one specimen,

approx. 26 miles NNW Mercury, 16 July 1965, *Coleogyne* community, incandescent light [1M(T)].

Brachycistis triangularis Fox.— This species is strictly a desert inhabitant, and its distributional pattern coincides almost exactly with that of *B. linsleyi* given above. It has been taken at four areas in the Nevada Test Site: four specimens, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M (TB)]; three specimens, vicinity Cane Springs, 18 miles NW Mercury, 12 June 1965, *Larrea-Franseria* community, black light (CTB); one specimen, same locality, 21 July 1965, incandescent light [401M(T)]; one specimen, approx. 35 miles NW Mercury, 8 August 1965, black light [19M(TB)]; four specimens, approx. 20 miles NW Mercury, 8 August 1965, *Coleogyne* community, black light [17M(TB)].

Genus *Brachycistina* Malloch

Brachycistina acuta Malloch.— This species occurs in the deserts of southern California, southern Nevada, and western Arizona. It has been taken at four areas in the Nevada Test Site: one specimen, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M(TB)]; one specimen, approx. 26 miles NNW Mercury 16 July 1965, *Coleogyne* community, incandescent light [1M(T)]; one specimen, vicinity Cane Springs, 18 miles NW Mercury, 21 July 1965, *Larrea-Franseria* community, black light [401M(TB)].

Genus *Colocistis* Krombein

Colocistis brevis (Fox).— This species is a Sonoran Desert inhabitant and occurs in southern California, southern Nevada, and western Arizona. It has been taken at one area in the Nevada Test Site: two specimens, Mercury, 15 August 1965, *Larrea-Franseria* community, incandescent light [M(T)].

Colocistis castanea (Cresson).— This is a large, conspicuous wasp, very abundant in the deserts of southern California, southern Nevada, Arizona, New Mexico, and Texas. This was the most frequently collected brachycistidine wasp at the Nevada Test Site in terms of numbers, but it was taken only in three areas: four specimens, vicinity Cane Springs, 18 miles NW Mercury, 21 July and 9 August 1965, *Larrea-Franseria* community, black light and incandescent light [401M(TB) and 401M(T)]; three specimens, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M(TB)]; one specimen, same locality, 20 July 1965, incandescent light [5M(T)]; eight specimens, Mercury, 4-5 August 1965, *Larrea-Franseria* community, black light [M(TB)]; 19 specimens, same locality, 4-25 August 1965, incandescent light [M(T)].

Colocistis crassa (Bradley).— This is another large species which occurs in the Great Basin and throughout the southern deserts of California and Nevada, east to Texas. It has been taken at four areas

in the Nevada Test Site: one specimen, Mercury, 4 August 1965, *Larrea-Franseria* community, incandescent light [5M(T)]; one specimen, vicinity Cane Springs, 12 June 1965, *Larrea-Franseria* community, black light (CTB); one specimen, vicinity Mid Valley, approx. 20 miles NW Mercury, 8 August 1965, *Coleogyne* community, black light [5M(TB)]; seven specimens, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M(TB)].

Colocistis eremi (Bradley).— As far as is known, this species occurs only in the southern deserts of California and Nevada. There is one record for the Nevada Test Site: one specimen, 13 miles NW Mercury, 21 July 1965, *Larrea-Franseria* community, black light [401M(TB)].

Genus *Quemaya* Pate

Quemaya paupercula (Bradley).— This is a small, relatively inconspicuous wasp which is restricted, as far as is known, to the southern deserts of California and Nevada. It has been taken at one area in the Nevada Test Site: four specimens, approx. 8 miles N Mercury, 19 July 1965, *Larrea-Franseria* community, black light [5M(TB)].

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